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OFFICE OF RESEARCH AND DEVELOPMENT
U.S. ENVIRONMENTAL PROTECTION AGENCY
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This report has been reviewed by the Environmental Monitoring and Support Laboratory, U.S. Environmental Protection Agency, and approved for publication. Mention of trade names or commercial products does not constitute endorsement or recommendation for use.

FOREWORD

Environmental measurements are required to determine the quality of ambient waters and the character of waste effluents. The Environmental Monitoring and Support Laboratory-Cincinnati conducts research to:

- Develop and evaluate techniques to measure the presence and concentration of physical, chemical, and radiological pollutants in water, wastewater, bottom sediments, and solid waste.

- Investigate methods for the concentration, recovery, and identification of viruses, bacteria, and other microbiological organisms in water. Conduct studies to determine the responses of aquatic organisms to water quality.

- Conduct an Agency-wide quality assurance program to assure standardization and quality control of systems for monitoring water and wastewater.

Various publications and reports have been developed through the years that pertain to methodology, quality assurance, and related subjects. These have been compiled to make them more conveniently accessable to laboratory personnel and others concerned with water quality analyses.

Dwight G. Ballinger
Director
Environmental Monitoring and Support Laboratory

PREFACE

This compilation of publications and reports relate to various aspects of analytical methodology for water, environmental monitoring and quality assurance. The publications have been authored or co-authored by personnel of the Environmental Monitoring and Support Laboratory, Cincinnati (EMSL-CI), Office of Research and Development, United States Environmental Protection Agency or predecessor organizations.

The publications are presently available as reprints or from the referenced books and journals. The publications prepared by EMSL-CI personnel are contained in this single document and are compiled as a convenience for locating and requesting publications.

Other reports prepared by contractors and grantees for EMSL-CI listed with the available source in the publication, "Indexed Bibliography of Office of Research and Development Reports, EPA 600/9-74-002", and "ORD Publications and Summary Reports". These reports may be obtained from:

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PUBLICATIONS AND REPORTS

METHODOLOGY

1. Evaluation Report 1: Automatic Beaker Sample Changer, 1970
2. Method Study 2, Nutrient Analyses, Manual Method, 1970
3. Method Research Study 3, Demand Analysis, 1971
4. Method for Organic Pesticides in Water and Wastewater, 1971
5. Analyses for Mercury in Water - A Preliminary Study of Methods, EPA-R4-72-003, 1972
6. Handbook for Analytical Quality Control in Water and Wastewater Laboratories, 1972
7. Biological Field and Laboratory Methods, 1973
8. Methods for Chemical Analysis of Water and Wastes, 1974
9. AQC Newsletter (published quarterly)
10. Interim Radiochemical Methodology for Drinking Water. H. L. Krieger. OR&D, EPA-600/4-75-008, September 1975
11. Validation of Environmental Measurement Methodology. J. A. Winter. ICESA Symposium, September 16-21, Las Vegas, Nevada, 1975
12. Interlaboratory Study of the Cold Vapor Technique for Total Mercury in Water. J. A. Winter and H. A. Clements. Reprint from Special Technical Publication 573, American Society for Testing and Materials, 1975.

CHEMISTRY

INORGANICS

1. Role of Spectroscopy in Water Pollution Analyses, Detection of Trace Metals by Emission and Absorption Spectroscopy. J. F. Kopp. Proceedings of the Summer Workshop. University of Colorado, August 1970.

2. Chemical Characterization of Bottom Sediments. D. G. Ballinger and G. D. McKee. Journal of Water Pollution Control Federation, Vol. 43, p 216, February 1971.

3. Cold Vapor Method for Determining Mercury. J. F. Kopp, M. C. Longbottom and L. B. Lobring. Journal of American Waterworks Association, Vol. 64, p 20, January 1972.

4. Evaluation of the AutoAnalyzer II: A Progress Report. L. B. Lobring and R. L. Booth. Technicon International Congress, June 1972.

5. Improved Computer Assisted Data Production by the Direct Reading Emission Spectrometer. J. F. Kopp. EPA Task Report, 1973.

6. Simultaneous and Automated Determination of Total Phosphorus and Total Kjeldahl Nitrogen. M. E. Gales, Jr., and R. L. Booth. NERC, OR&D, EPA Report 670/4-74-002, May 1974.

7. An Evaluation of the 3-Methyl-2-benzothiazolinone Hydrazone Method for the Determination of Phenols in Water and Wastewaters. M. E. Gales, Jr. The Analyst, Vol. 100, No. 1197, p 841, December 1975.

8. Modification of the Iodimetric Titration Method for the Determination of Bromide and its Application to Mixed Domestic - Industrial Waste Effluents. D. F. Bender. The Analyst, Vol. 100, p 400, June 1975.

9. Understanding Turbidity Measurements. L. B. Lobring and R. L. Booth. American Waterworks Association Technology Conference Proceedings, December 1975.

10. Determining Selenium in Water, Wastewater, Sediment and Sludge by Flameless Atomic Absorption Spectroscopy. T. D. Martin, J. F. Kopp and R. D. Ediger. Atomic Absorption Newsletter, Vol. 14, No. 5, p 109, September - October 1975.

CHEMISTRY

ORGANICS

1. Separation of Phenolic Compounds from Carbon Chloroform Extract for Individual Chromatographic Identification and Measurement. J. W. Eichelberger, R. C. Dressman and J. E. Longbottom. Environmental Science and Technology, Vol. 4, July 1970.

2. Gas Chromatographic Analysis of Mercaptans, Phenols, and Organic Acids in Surface Waters with Use of Pentafluorobenzyl Derivatives. F. K. Kawarara. Environmental Science and Technology, Vol. 5, March 1971.

3. Determination of Nitrilotriacetic Acid by High-Speed Ion Exchange Chromatography. J. E. Longbottom. Analytical Chemistry, Vol. 44, February 1972.

4. Evaluation of Organic Nitrogen Methods. M. E. Gales, Jr. and R.L. Booth. EPA, Office of Research and Development, NERC-Cincinnati, June 1972.

5. The Conversion of Phenylmercuric Salts to Diphenylmercury and Phenlymercuric Chloride Upon Gas Chromatographic Injection. R.C. Dressman. Journal of Chromatographic Science, Vol. 10, July 1972.

6. A New Method for the Gas Chromatographic Separation and Detection of Dialklylmercury Compounds-Application to River Water Analysis. R. C. Dressman. Journal of Chromatographic Science, Vol. 10, July 1972.

7. Gas Chromatographic Determination of Methylmercury in Fish, Sediment, and Water. J. E. Longbottom, R. C. Dressman, and J. J. Lichtenberg. Journal of the AOAC, Vol. 56, November 1972.

8. Inexpensive Mercury-Specific Gas Chromatographic Detector. J. E. Longbottom. Analytical Chemistry, Vol. 44, May 1972.

9. Some Factors Affecting the Recovery of Polychlorinated Biphenyls (PCB's) and Water and Bottom Samples. T. A. Bellar and J. J. Lichtenberg. Water Quality Parameters Symposium, ASTM, STP, p 206, November 1973.

10. Analysis of the Polychlorinated Biphenyl Problem. Application of Gas Chromatography-Mass Spectrometry with Computer Controlled Repetitive Data Acquisition from Selected Specific Ions. J. W. Eichelberger, L. E. Harris, and W. L. Budde. Analytical Chemistry, Vol. 46, p 227, February 1974.

11. Direct Analysis of Water Samples for Organic Pollutants with Gas Chromatography-Mass Spectrometry. L. E. Harris, W. L. Budde and J. W. Eichelberger, Analytical Chemistry, Vol. 46, p 1912, November 1974.

12. Identifying Organic Pollutants in Water. J. W. Eichelberger, L. E. Harris, and W. L. Budde. News of Environmental Research in Cincinnati, EPA, March 1974.

13. The Determination of Volatile Organic Compounds at the g/l Level in Water by Gas Chromatography. T. A. Bellar and J. J. Lichtenberg. Journal of American Waterworks Association, Vol. 66, No. 12, p 739, 1974.

14. The Occurrence of Organohalides in Chlorinated Drinking Waters. T. A. Bellar, J. J. Lichtenberg and R. C. Kroner. Journal of American Waterworks Association, Vol. 66, No. 12, p 703, 1974.

15. Trace Organics by GC/MS. The Gas Chromatograph/Mass Spectrometer Coupled to the Minicomputer Offers an Accurate, Economic Approach to the Detection of Pollutants in all Media. S. R. Heller, J. M. McGuire and W. L. Budde. Environmental Science and Technology, Vol. 9, p 210, March 1975.

16. Fortran Programs for Analyzing Collaborative Test Data, Part I: General Statistics. E. C. Julian. NERC, OR&D, EPA-670/4-75-004a, April 1975.

17. Fortran Programs for Analyzing Collaborative Test Data, Part II: Scatter Diagrams. E. C. Julian. NERC, OR&D, EPA-670/4-75-004b, April 1975.

18. Methods for the Determination of Specific Organic Pollutants in Water and Wastewaters. J. J. Lichtenberg. IEEE Transactions on Nuclear Science, Vol. 22, No. 2, April 1975.

19. National Organics Reconnaissance Survey for Halogenated Organics in Drinking Water. J. M. Symons, T. A. Bellar, J. K. Carswell, J. DeMarco, K. L. Dropp, G. G. Robeck, D. R. Seeger, C. J. Solcum, B. L. Smith and A. A. Stevens. WSRL, MDQARL, EPA. Journal of American Waterworks Association, April 1975.

20. Analytical Quality Assurance for Trace Organics Analysis by Gas chromatography/Mass Spectrometry. J. W. Eichelberger, W. M. Middleton and W. L. Budde. EPA, OR&D, EPA-670/4-75-007, September 1975.

21. Reference Compound to Calibrate Ion Abundance Measurements in Gas Chromatography-Mass Spectrometry Systems. J. W. Eichelberger, L. E. Harris and W. L. Budde. Analytical Chemistry, Vol. 47, p 995, June 1975.

22. The Determination of Vinyl Chloride at the Mg/l Level in Water by Gas Chromatography. T. A. Bellar, J. J. Lichtenberg and J. W. Eichelberger. Environmental Science and Technology, August 1976.

23. Trace Organic Components as Fingerprints in Gas Chromatographic Identification of Spilled Asphalts. F. K. Kawahara. Environmental Science and Technology, Vol. 10, August 1976.

OIL

1. Characterization of Oil Slicks on Surface Waters. F. K. Kawahara and D. G. Ballinger. Industrial Engineering, Chemical Products Research Development, Vol. 9, December 1970.

2. Characterization and Identification of Spilled Residual Fuel Oils by Gas Chromatography and Infrared Spectrophotometry. F. K. Kawahara. Journal of Chromatographic Science, Vol. 10, p 629, October 1972.

3. Characterization and Identification of Certain Petroleum Products by Means of Gas Chromatographic Analysies of Minor Components. F. K. Kawahara. National ACS Meeting, Los Angeles, March 1971.

4. Oil Identification: State of the Act. F. K. Kawahara and E. C. Julian. NERC-Cincinnati News, September 1973.

5. Characterization of Heavy Fuel Oils and Asphalts by Infrared Spectrophotometry Using Statistical Discriminant Function Analysis. F. K. Kawahara, J. F. Santner and E. C. Julian. Analytical Chemistry, Vol. 46, February 1974.

6. Recent Development in the Identification of Asphalts and Petroleum Products. F. K. Kawahara. Intergovernmental Ocenic Commission, NBS, 1974.

7. Systems Chemical Analysis of Petroleum Pollutants. F. K. Kawahara and Y. Y. Yang. Analytical Chemistry, Vol. 48, p 651, April 1976.

PESTICIDES

1. Carbon Adsorption for Recovery of Organic Pesticides. J. W. Eichelberger and J. J. Lichtenberg. Journal of American Waterworks Association, Vol. 63, January 1971.

2. Persistence of Pesticides in River Water. J. W. Eichelberger and J. J. Lichtenberg. Environmental Science and Technology, Vol. 5, June 1971.

3. Determination of Pesticides in Water and Wastewater. J. J. Lichtenberg. American Waterworks Association, Technical Conference Proceedings, Water Quality, December 1973.

AQUATIC BIOLOGY

1. Artificial Substrate Sampling, Macroinvertebrates in a Polluted Reach of the Klamath River, Oregon. W. T. Mason, Jr., J. B. Anderson, R. D. Kreis and W. C. Johnson. Journal of Water Pollution Control Federation, Vol. 42, p 315, 1970.

2. Rearing Devices for Stream Insect Larvae. W. T. Mason, Jr., and P. A. Lewis. Progressive Fish Culturist, Vol. 32, p 61, 1970.

3. A New Freshwater centric Diatom, Microsiphona potamos GEN. ET Sp. C. I. Weber. Journal of Phycology, Vol. 6, p 149, November 1970.

4. Macroinvertebrate Collections and Water Quality Monitoring in the Ohio River, 1963-1967. W. T. Mason, Jr., P. A. Lewis and J. B. Anderson. EPA, AQCL, Cincinnati, Ohio, 1971.

5. Collecting Ohio River Basin Chironmidae (Diptera) With a Floating Sticky Trap. W. T. Mason, Jr. and J. E. Sublette. Canadian Entomology, Vol. 100, p 394, 1971.

6. Periphyton. C. I. Weber. In: Standard Methods for the Examination of Water and Wastewater, 13th Edition. American Public Health Association, New York, p 743, 1971.

7. The Freshwater Diatom Cymbella cistula nom. T. L. Hufford and G. B. Collins. Journal of Phycology, Vol. 8, p 184, November 1972.

8. The Leeches (Annelida:Hirudinea) of Michigan. D. J. Klemm. Michigan Academy, Vol. 4, p 405, 1972.

9. Morphological Variation in the Diatom Cymbella cistula (Hempr.) Grun. T. L. Hufford and G. B. Collins. Journal of Phycology, Vol. 8, p 192, 1972.

10. The Stalk of the Diatom Cymbella cistula: S.E.M. Observations. T. L. Hufford and G. B. Collins. Journal of Phycology, Vol. 8, p 208, 1972.

11. References for the Identification of Freshwater Macroinvertebrates. P. A. Lewis. EPA, MDQARL, Cincinnati, EPA-R4-72-006, 1972.

12. An Aerophilous Diatom Community from Hocking County, Ohio. R. L. Lowe and G. B. Collins. Transaction of American Microscopy Society, Vol. 92, p 492, 1973.

13. Biological Monitoring of the Aquatic Environment by the Environmental Protection Agency. C. I. Weber. In: Biological Methods for the Assessment of Water Quality, ASTM Special Technical Publication No. 528, American Society for Testing and Materials, Philadelphia, Pennsylvania, p 46, 1973.

14. Description and Ecology of Three Stenonema Mayfly Nymphs. P. A. Lewis. Proceedings of First International Conference on Ephemeroptera. E. J. Brill Publication, Leiden, Netherlands, p 64, 1973.

15. Factors Affecting the Performance of Basket and Multiplate Macroinvertebrate Samplers. W. T. Mason, Jr., C. I. Weber, P. A. Lewis and E. C. Julian. Freshwater Biology, Vol. 3, p 409, 1973.

16. Recent Developments in the Measurement of the Response of Plankton and Periphyton to Changes in Their Environment. C. I. Weber. Bioassay Techniques and Environmental Chemistry, p 119, 1973.

17. Incidence of a Parasitic Leech Marvinmeyeria (Oculobdella) lucida Moore and Two Cercarial Types in Estivating Stagnicola exilis (Lea.). D. J. Klemm. Malacological Review, Vol. 6:1, p 66, 1973.

18. ATP Bibliography. C. I. Weber. EPA, MDQARL, Cincinnati, Ohio, p 7, 1974.

19. Three New Stenonema Species from Eastern North America (Heptageniidae: Ephemeroptera). P. A. Lewis. Proceedings Entomology Society, Washington, Vol. 76:3, p 347, September 1974.

20. Taxonomy and Ecology of Stenonema Mayflies (Heptageniidae:Ephemeroptera). P. A. Lewis. EPA, MDQARL, Cincinnati, Ohio, EPA-670/4-74-006, December 1974.

21. Studies on the Feeding Relationships of Leeches (Annelida:Hirudinea) as Natural Associates of Mollusks. D. J. Klemm. Sterkinana No. 58 (1975): 1-50 and No. 59 (Sept. 1975):1-20, 1975.

22. The Influence of Sieve Mesh Size Selectivity on Benthic Invertebrate Indices of Euthrophication. W. T. Mason, Jr., P. A. Lewis and P. L Hudson, Verh. International Verein. Limnology, Vol. 19, p 1550, 1975.

23. Leeches Found in North American Mollusks. D. J. Klemm. Malacological Review, Vol. 9 (1&2), p 63, 1976.

MICROBIOLOGY

1. Fecal Contamination of Fruits and Vegetables During Cultivation and Processing for Market. A Review. E. E. Geldreich and R. H. Bordner. Journal of Milk and Food Technology, Vol. 34, April 1971.

2. Proceedings, Seminar on the Significance of Fecal Coliform in Industrial Wastes. R. H. Bordner and J. Carroll. TR-3 Office of Enforcement, NFIC, EPA, Denver, Colorado, July 1972.

3. Delayed Incubation Membrane-Filter Test for Fecal Coliforms. R. H. Taylor, R. H. Bordner and P. V. Scarpino. Applied Microbiology, Vol. 25, p 363, 1973.

4. Evaluation of Enrichment and Plating Media for Isolating Salmonella from Water. H. L. Manning and R. H. Bordner. Abstracts of the Annual Meeting of the American Society for Microbiology, 1973.

5. Quality Control: A State of the Art. R. H. Bordner. Proceedings of the First Microbiology Seminar on Standardization of Methods. Office of Research and Monitoring, EPA, Washington, D. C., EPA-R4-73-022, March 1973.

6. Applicability of the Membrane Filter and Most Probable Number Coliform Procedures to Chlorinated Wastewaters. R. A. Greene, R. H. Bordner and P. V. Scarpino. Abstract of the Annual Meeting of the American Society for Microbiology, 1974.

7. Evaluation of Three Multitest Diagnostic Systems for Identifying Salmonella from Water. H. L. Manning and R. H. Bordner. Abstracts of the Annual Meeting of the American Society for Microbiology, 1974.

INSTRUMENTATION

1. Evaluation of the Ryan Waterproof Thermograph (Model F-30). R. P. . Lauch. OR&D, USEPA, EPA-670/4-74-007, April 1974.

2. Literature Survey of Instrumental Measurements of Biochemical Oxygen Demand for Control Application 1960-1973. R. J. O'Herron. OR&D, USEPA, EPA-670/4-74-001, February 1974.

3. Performance Evaluation of the American Limnetics Instruments Dissolved Oxygen Meter. R. J. O'Herron. OR&D, USEPA, November 1974.

4. Performance of the ISCO Model 1391 Water and Wastewater Sampler. R. P. Lauch. OR&D, USEPA, EPA-670/4-75-001, February 1975.

5. Interfacing a 24-Point Analog Recorder to a Computer Controlled Telemetry Line. J. M. Teuschler. OR&D, USEPA, EPA-670/4-75-002, February 1975.

6. Application and Procurement of Automatic Wastewater Samplers. R. P. Lauch. OR&D, USEPA, EPA-670/4-75-003, April 1975.

7. Investigation of the Orion Research Cyanide Monitor. R. J. O'Herron, OR&D, USEPA, EPA-670/4-75-005, April 1975.

8. Recommended Design of Sample Intake Systems for Automatic Instrumentation. R. P. Lauch. OR&D, USEPA, EPA-600/4-75-012, November 1975.

RADIOCHEMISTRY

1. Gastrointestinal Absorption and Tissue Retention of Radioruthenium. J. F. Stara, N. S. Nelson, H. L. Krieger and B. Kahn. Intestinal Absorption of Metal Ions, Trace Elements and Radionuclides, Pergamon Press, 1970.

2. ^{210}Pb and ^{210}Po in Tissues of Some Alaskan Residents as Related to Consumption of Caribou or Reindeer Meat. R. L. Blanchard and J. B. Moore. Health Physics 18, p 127, February 1970.

3. Relation of Radon Concentration in the Atmosphere to Total Moisture Detection in Soil and Atmospheric Thermal Stability. W. M. Cox, R. L. Blanchard and B. Kahn. Radionuclides in the Environment - American Society Publication, Washington, D.C., p 436, 1970.

4. Radiological Surveillance Studies at a BWR Nuclear Power Station - Estimated Dose Rates. R. L. Blanchard, H. L. Krieger, H. E. Kolde and B. Kahn. Proceedings of the Fifth Annual Health Physics Society Midyear Topical Symposium, Health Physics, p 372, November 1970.

5. Tritium Releases from Nuclear Power Stations. H. L. Krieger, S. Gold and B. Kahn. Proceedings from Tritium Symposium, Messenger Graphics, Las Vegas, Nevada, 1971.

6. ^{131}I Discharges from an Operating Boiling Water Reactor Nuclear Power Station. G. E. Stigall, T. W. Fowler, and H. L. Krieger. Health Physics 20, June 1971.

7. Evaluation of Ion-Exchange Surveillance Sampling for Analyzing Radioactive Liquid Effluents. H. L. Krieger and G. Frishkorn, Health Physics 21, October 1971.

*8. Distribution and Internal Dose of ^{210}Pb and ^{210}Po in a Uranium Minor Population. R. L. Blanchard and J. B. Moore. Health Physics, Vol. 21, p 499, October 1971.

*9. Radiological Surveillance Studies at a Pressurized Water Nuclear Power Reactor. B. Kahn and R. L. Blanchard. EPA, NERC Publication RD 71-1, 1971.

10. Radiological Surveillance Studies at a Boiling Water Nuclear Power Reactor. B. Kahn and R. L. Blanchard. Environmental Aspects of Nuclear Power Stations, International Atomic Energy Agency, Vienna, p 535, 1971.

*11. Pathways for the Transfer of Radionuclides from Nuclear Power Reactors Through the Environment to Man. R. L. Blanchard and B. Kahn. Proceedings of the International Symposium on Radioecology Applied to the Protection of Man and His Environment, Rome, p 175, September 1971.

12. A Correction in the Comparison of ^{210}Pb Skeletal Levels with Radon Daughter Exposures. W. L. Wagner, V. E. Archer and R. L. Blanchard. Health Physics, Vol. 23, p 871, December 1972.

13. In-Vivo Measurements of Lead-210 in Man. M. E. Wrenn, N. Cohen, J. C. Rosen and R. L. Blanchard. Proceedings of the Symposium on the Assessment of Radioactive Contamination in Man, November 1971, IAEA (1972).

14. The Fate of Radionuclides Discharged from a PWR Nuclear Power Station Into a River. R. L. Blanchard and B. Kahn. Proceedings of the IAE Symposium - Environmental Behavior of Radionuclides Released in the Nuclear Industry, Vienna, p 195, 1973.

15. Lead-210 Blood Concentration as a Measure of Uranium Miner Exposure. R. L. Blanchard, E. L. Kaufman and H. M. Ide. Health Physics, Vol. 25, p 129, 1973.

16. Effective Half-Lives for Lead-210 and Polonium-210 in Selected Organs of the Male Rat. E. Torvik, E. Pfitzer, J. G. Kereiakes and R. L. Blanchard. Health Physics, Vol. 26, p 81, January 1974.

17. Monitoring Low-Level Radioactive Aqueous Discharges from a Nuclear Power Station in a Seawater Environment. D. M. Montgomery, H. L. Krieger, and B. Kahn. In Environmental Surveillance Around Nuclear Installations, Vol. 1, Vienna, IAEA-SM-180/41, 1974.

18. Radiological Surveillance Study at the Haddam Neck PWR Nuclear Power Station in a Seawater Environment. D. M. Montgomery, H. L. Krieger and B. Kahn. EPA Publication, EPA-520/3-74-007, 1974.

19. Activities and Needs Related to Radioactivity Standards for Environmental Measurements. J. E. Eldridge and B. Kahn. EPA publication, EPA-670/4-75-006, August 1975.

20. Analysis of Carbon-14 and Tritium in Reactor Gas. S. Gold. EPA Publication, EPA-600/4/75-011, September 1975.

21. Detailed Measurement of ^{131}I in Air, Vegetation and Milk Around Three Operating Reactor Sites. B. Weiss, P. Voilleque, J. Keller, B. Kahn, H. L. Krieger, A. Martin and C. Phillips. U.S. Nuclear Regulatory Comm. NUREG-75/021, March 1975.

*Publications no longer available but excerpts and other information may be obtained by contacting the authors.

VIROLOGY

*1. Occurrences of Viruses in Water. N. A. Clarke, G. Berg, O. C. Liu, T. Metcalf, R. Sullivan and L. T. Vlassoff. Arch. Hyg. Bakt., p 314, 1970.

*2. Viruses in Water-Current Status. G. Berg. Proceedings of the Summer Workshop, Air and Water Pollution, University of Colorado. Colorado Associated University Press, Boulder, Colorado, 1970.

3. Viruses in Waste, Renovated and Other Waters. G. Berg. Literature Abstracts, EPA, Cincinnati, 1970.

*4. Removal of Viruses from Water and Wastewater. G. Berg. In: Virus and Water Quality: Occurrence and Control. Edited by V. Snoeyink. Proceedings of the 13th Water Quality Conference, February 1971. University of Illinois, Bulletin 69:126, 1971.

5. Recovery of Small Quantities of Viruses from Clean Waters on Cellulose Nitrate Membrane Filters. G. Berg, D. R. Dahling and D. Berman. Applied Microbiology, Vol. 22, p 608, 1971.

6. Integrated Approach to the Problem of Viruses in Water. G. Berg. Sanitary Engineering Division, ASCE, Vol. 97:SA6, p 867, 1971.

*7. Viruses in Waste, Renovated, and Other Waters. G. Berg. Literature Abstracts, EPA, Cincinnati, 1971.

8. Viruses in Water. G. Berg. In Session 34 of 2nd International Congress of Virology, Food and Water Virology, Budapest, 1971.

*9. Microbiology-Detection and Occurrence of Viruses. G. Berg. Journal of Water Pollution Control Federation, Vol. 44, p 1193, 1972.

10. Viruses in Waste, Renovated, and Other Waters. G. Berg. Literature Abstracts, EPA, Cincinnati, 1972.

11. A Comparative Study of the Inactivation of Viruses in Water by Chlorine. P. V. Scarpino, G. Berg, S. L. Chang, D. R. Dahling and M. Lucas. Water Research, Vol. 6, p 959, 1972.

12. Isolation and Characterization of AS-1, A Phycovirus Infecting the Blue-Green Algae, Anacystis nidulans and Synechococcus cedrorum. R. S. Safferman, T. O. Diener, P. R. Desjardins and M. E. Morris. Virology, Vol. 47, p 105, January 1972.

13. Interact Symposium Proceedings. G. Berg. December 11-12, 1972. NERC, Cincinnati, 1973.

*14. Discussion of: Concentration of Viruses from Seawater. T. G. Metcalf, C. Wallis and J. L. Melnick. G. Berg. In Advances in Water Pollution Research. Proceedings of the 6th International Conference, Jerusalem, June 1972. Pergamon Press, New York, 1973.

15. Phycoviruses. R. S. Safferman. In the Biology of Blue-Green Algae, edited by N. G. Carr and B. A. Whitton. Chapter 11. Blackwell Scientific Publications, 1973.

16. Reassessment of the Virus Problem in Sewage and in Surface and Renovated Waters. G. Berg. In Progress in Water Technology, Vol. 3, Pergamon Press, New York, p 87, 1973.

17. Viruses in Waste, Renovated and Other Waters. G. Berg. Literature Abstracts, EPA, Cincinnati, 1973.

*18. Methods for Detecting Viruses in Environmental Waters - A Status Report. G. Berg. EPA Publication R4-73-022. In Proceedings of the First Microbiology Seminar on Standardization of Methods, March 1973.

*19. Microbiology-Detection and Occurrence of Viruses. G. Berg. Journal of Water Pollution Control Federation, Vol. 45, p 1280, 1973.

20. Removal of Viruses from Sewage, Effluents and Waters. A Review. G. Berg. Bulletin of Wildlife Health Organization 49, p 461, 1973.

21. Special Methods-Virus Detection in Cyanophyceae. R. S. Safferman. Handbook of Phycological Methods-Culture Methods and Growth Measurements, edited by J. R. Stein, Cambridge University Press, 1973.

22. Microbiology-Detection, Occurrence and Removal of Viruses. G. Berg. Journal of Water Pollution Control Federation, Vol. 46, p 1409, 1974.

*23. The Virus Hazard-A Panorama of the Past, A Presage of Things to Come. G. Berg. In Virus Survival in Water and Wastewater Systems, edited by F. F. Malina and B. P. Sagik. Center for Research in Water Resources, The University of Texas at Austin, p 13, 1974.

24. Viruses in Waste, Renovated, and Other Waters. G. Berg. Literature Abstracts, EPA, Cincinnati, 1974.

25. Detection of Viruses in Waste and Other Waters. G. Berg. Symposium. Developments in Industrial Microbiology, August, 1974.

26. Virus Inactivation During Tertiary Treatment. H. W. Wolf, R. S. Safferman, A. R. Mixson, and C. E. Stringer. Journal of American Waterworks Association, Vol. 66, p 526, September 1974.

*27. Effectiveness of Hypochlorous Acid and Hypochlorite Ion in Destruction of Viruses and Bacteria. P. V. Scarpino, M. Lucas, D. R. Dahling,. G. Berg, and S. L. Chang. Chemistry of Water Supply, Treatment and Distribution Ann Arbor Science Publication, Inc., 1974.

*28. Destruction of Viruses and Bacteria in Water by Monochloramine. P. V. Scarpino, D. L. Siders, S. L. Chang, G. Berg, M. Lucas and J. M. Dorn. In Advances in Water Pollution Research. Proceedings of the Seventh International Conference, Paris, Pergamon Press, New York, September 1974.

29. BGM, A Continuous Cell Line More Sensitive than Primary Rhesus and African Green Kidney Cells for the Recovery of Viruses from Water. D. R. Dahling, G. Berg and D. Berman. Health Laboratory Science, Vol. 11, p 275, 1974.

*30. Discussion of Disinfection of Wastewater for Agricultural Utilization. H. I. Shuval and G. Berg. In Advances in Water Pollution Research. Proceedings of the Seventh International Conference, Paris, September 1974. Pergamon Press, New York, 1975.

31. Regional Problems with Sea Outfall Disposal of Sewage on the Coasts of the United States. G. Berg. In Discharge of Sewage from Sea Outfalls. Pergamon Press, p 17, 1975.

32. Bibliography-Phycoviruses. R. S. Safferman and M. E. Morris, 1975.

33. Microbiology-Detection, Occurrence and Removal of Viruses. G. Berg. Journal of Water Pollution Control Federation, Vol. 47, p 1587, 1975.

34. Assessment of Virus Removal by a Multi-Stage Activated Sludge Process. R. S. Safferman and M. E. Morris. Water Research, Vol. 10, p 413, 1976.

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